APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/025,143	02/18/1998	MARK W. BURKE	9318-0004	9234

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EXAMINER
LAO, SUE X

ART UNIT	PAPER NUMBER
2151	

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ___3___ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Feb 12, 2002* .

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-21* is/are pending in the application.

   4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *21* is/are allowed.

6) ☒ Claim(s) *1-15, 17, 18, and 20* is/are rejected.

7) ☒ Claim(s) *16 and 19* is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All b) ☐ Some* c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   *See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

   a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

4) ☐ Interview Summary (PTO-413) Paper No(s). _____

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____

DETAILED ACTION

1.   Claims 1-21 are pending. This action is in response to the amendment filed 2/12/2002.

2.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3.   Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

   Claim 1 recites "said one or more objects" in line 3. There is insufficient antecedent basis for this limitation in the claim. For the purpose of art rejection, it is interpreted as "said one or more software objects", as best understood and as it appears to be.

   Claim 7 recites "said one or more objects" in lines 3 and 4 and "the object definition" in line 4. There are insufficient antecedent bases for these limitations in the claim. For the purpose of art rejection, these are interpreted as "said one or more software objects" and "the object interface information", respectively, as best understood and as they appear to be.

4.   Claims 1, 7, 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Purtilo et al ("Module Reuse by Interface Adaption") in view of Gamma et al (Design Patterns: Elements of Reusable Object-oriented Software, pp. 87-96, 139-150).

   As to claim 17, Purtilo teaches (interface adaption) one or more software modules (adaptor), at least one interface defined in first notation (formal pattern), manipulating (coerce interface patterns), object (procedure or function) having an interface at least partially defined in a second notation (actual pattern), the two notations are different (interfaces fail to match). See page 539, summary; pages 544-548. The interface adaption in Purtilo includes those without translating the interface patterns, for example, by

extending an actual parameter list to include additional / missing data (page 547, paragraph after the second 'Examples') and by performing an adaption via an interpreter rather than a compiler (page 551, 3rd para., fig. 6).

While Purtilo does not teach that the software module(s) / adaptor are implemented as object-oriented objects, this would have been an obvious choice, and additionally taught by Gamma (adaptor pattern) who implements every software modules of an adapting system (client, target, adaptee, adaptor) in an object-oriented fashion.

As to claim 1, note discussion of claim 17, and the equivalence of one or more object encapsulating (claim 1) and an object (claim 17).

As to claim 7, it is a method claim of claim 1, thus note claim 1 for discussion.

As to claim 11, note discussion of claim 17, and Purtilo further teaches storing object interface information (Nimble map), parser for object interface information (new Yacc), and predefined interface (formal interface pattern). See page 524, 3rd para. Purtilo also teaches producing objects encapsulating (generate adaptor, page 524, 2nd para), but does not teach the production is by an object factory.

Gamma teaches producing an object by a corresponding object factory (abstract factory). See pages 87-90. Given the teaching of Gamma, it would have been obvious to produce the object encapsulating in the system of Purtilo as modified by an object factory.

5.   Claims 2-4, 5, 6, 8-10, 12-15, 18, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Purtilo et al in view of Gamma as applied to claims 1, 7, 11, 17 and further in view of author admitted prior art APA (page 1, line 13 - page 4, line 17).

As to claims 2-4, 8-10, 12, 14, 15, 18, 20, APA teaches CORBA IDL (CORBA IDL, page 3, lines 2-5), GDMO (GDMO, page 3, lines 21-29), ASN.1 (ASN.1). Since CORBA IDL and GDMO/ASN.1 are well known interface specifications / notations (page 3, lines 30-35), it would have been obvious to include these specifications into the adaption system of Purtilo as modified.

As to claim 5-6, APA teaches a metadata repository (CORBA Interface Repository, page 2, line 6-8), and dynamic gateway for manipulating (dynamically acquire interface

definition information, page 2, lines 3-8). Note discussion of claim 17 for first/second notations, objects and invocation. An ORB itself by definition is a dynamic gateway for manipulating/instantiating/invoking objects.

As to claim 13, CORBA Dynamic Skeleton Interface (IDL skeleton) is taught by CORBA 2.0 (page 2-4 of chapter 2), which is included by the APA (page 3, line 3-5).

6.   Claim 21 is allowed.

7.   Claims 16 and 19 are objected to as being dependent upon respective rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the respective base claims and any intervening claims.

8.   Applicant's arguments filed 2/12/2002 have been considered but are moot in view of the new ground(s) of rejection.

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Lao whose telephone number is (703) 305-9657. A voice mail service is also available at this number. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7238 for After Final communications, (703) 746-7239 for Official communications and (703) 746-7240 for Non-Official/Draft communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-9600.

Sue Lao   *SrL*
May 31, 2002